REQUEST FOR RECONSIDERATION

Claims 11-21 remain active in this application.

The claimed invention is directed to an offshore pipe comprising a layer of a syntactic polyurethane comprising a polyol component which comprises a polyetherpolyol and 10 to 90 wt. % of an oil based on C_{6-25} fatty acids and comprising hollow microspheres.

Applicants wish to thank examiner Kashnikow for the helpful and courteous discussion held with their U.S. representative on July 13, 2011. At that time, applicants' U.S. representative discussed the lack of motivation to merely substitute the polyol of a polyurethane used as an anti-corrosive coating composition for a polyol in an insulated offshore pipe in view of the specialized demands of an underwater pipe environment in terms of long term heat resistance and compressive strength. Applicants' representative further noted that Sano describes that the fatty acid of caster oil was easily hydrolyzed in the absence of at least 10 wt.% of a polyol (a) having a hydrocarbon backbone. The following is intended to expand upon the discussion with the examiner.

Offshore pipes, used to transport oil through the ocean depths, are benefited by thermal insulation properties which have heretofore been achieved by inclusion of a hollow microfillers. However, such microfillers can lead to a reduction in hydrolytic stability as well as unsatisfactory low-temperature flexibility. Accordingly, offshore pipes having good thermal insulation properties, hydrolytic stability and low temperature flexibility are sought.

The claimed invention addresses the reduction in hydrolytic stability and low temperature flexibility by providing an offshore pipe comprising a layer of a syntactic polyurethane comprising a polyisocyanate component, a polyol component which comprises a polyetherpolyol having a hydroxyl number of from 10 to 280 and 10 to 90 wt. % of an oil based on C_{6-25} fatty acids and hollow microspheres. Applicants have discovered that the presence of 10 to 90 wt. % of an oil based on C_{6-25} fatty acids in the polyol component can

improve stability to hydrolysis. Such an offshore pipe is nowhere disclose or suggested in the cited references.

The rejections of claims 11-21 under 35 U.S.C. §103(a) over both combinations of Grimm et al. U.S. 6,387,447 and Sano JP 59-197466 are respectfully traversed.

Applicants wish to thank examiner Kashnikow for providing a translator's translation of Sano. Applicants will make reference to page and line number of the provided translation.

There would have been no motivation to use the polyol component of the polyurethane of Sano in the polyurerethane of Grimm et al.. In addition, none of the cited references, alone or in combination suggest that the claimed polyol component containing a polyetherpolyol and 10 to 90 wt. % of an oil based on C_{6-25} fatty acids would provide improved hydrolytic stability in an artificial seawater test.

Grimm et al. has been cited for a disclosure of an insulated pipe comprising a syntactic polyurethane layer comprising a polyol having an OH number of 36 as well as castor oil, citing example 1. Component B contains only 0.75 wt. % of castor oil as a result of its use as a vehicle to introduce the zeolite water scavenger. Thus an amount of castor oil of 10-90% is not disclosed. The reference establishes property requirements for the polyurethane in terms of heat distortion point and compressive strength in view of the operating temperatures of flowing oil and the use at sea depths of up to 2,500 m (column 1, lines 19-25).

Sano et al. merely describes a metal coating composition providing anti-corrosion properties, resistance to water and impact and insulating properties (page 4, lines 1-4). There is no disclosure of properties which would suggest heat distortion or compression strength suitable for offshore oil pipe use.

Applicants respectfully submit that due to the self-imposed performance requirements of Grimm of long term heat resistance and compressive strength which are sought for use in

the underwater environment, one of ordinary skill into the art would not have been motivated to simply substitute the polyol of Sano et al. in polyurethane of the offshore oil pipe of Grimm et al. Specifically, there is no suggestion that the polyol of Sano et al. would provide a polyurethane with the desired specific heat distortion properties and compression strength such that one of ordinary skill in the art would not be motivated to simply make the polyol replacement as suggested.

There simply is nothing in the properties of anti-corrosion, resistance to water and impact and insulating which would suggest that a polyurethane prepared from such a polyol would have the desired heat distortion point and compressive strength. Therefore, there would have been no motivation to use the castor oil as a polyol in the polyurethane of Grimm.

Furthermore, the combined disclosures of Grimm et al. and Sano et al. fail to suggest an enhancement in hydrolytic stability.

Grimm et al. merely includes castor oil as a vehicle for introduction of a moisture scavenging zeolite, a content of castor oil which has no effect on the water uptake of the polyurethane and therefore the hydrolytic behavior. Sano et al. simply discloses a coating composition for metal.

Page 7 of the official action has correctly noted that Sano is generally concerned with the properties of the coating composition in terms of water absorption and water resistance (page 10). In spite of the fact that castor oil is present in the composition, the reference still provides no expectation for enhanced hydrolytic stability by using a fatty acid based oil in a polyurethane as claimed.

Specifically, the examiner's attention is directed to page 8 of the English language translation which identifies that when the content of polyol (a) was less than 10 wt. %, the resin was easily hydrolyzed due to the **ester group in the caster oil**. Polyol (a) is a polyol

having a main chain composed of only carbon and hydrogen atoms. Thus, in the absence of at least 10 wt. % of a polyol having a hydrocarbon backbone, the presence of caster oil would be expected to decrease the hydrolytic stability due to the ester group in the caster oil.

Page 7 of the official action requests evidence in the form of a declaration or affidavit as to the heat properties of the polyurethanes of Grimm and Sano.

Applicants respectfully note their reliance on the evidentiary disclosures of Grimm and Sano in support of these arguments. The statements and representations as to the disclosures of Grimm and Sano are evidenced by the references themselves. At this time, applicants do not challenge the accuracy of the English language translation of Sano provided by the USPTO.

As the cited references fail to suggest an improvement in hydrolytic stability by the addition of a fatty acid oil to the polyol component, the claimed invention is not rendered obvious by the cited references and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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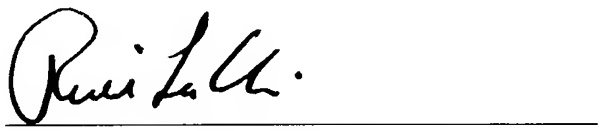

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